



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,228	03/23/2004	Kimihiko Nishioka	050931-0308962	1701
909 7590 10/09/2009 PILLSBURY WINTHROP SHAW PITTMAN, LLP P.O. BOX 10500 MCLEAN, VA 22102				
EXAMINER				
CUTLER, ALBERT H				
ART UNIT		PAPER NUMBER		
2622				
MAIL DATE		DELIVERY MODE		
10/09/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/806,228

Applicant(s)

NISHIOKA ET AL.

Examiner

ALBERT H. CUTLER

Art Unit

2622

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-72 is/are pending in the application.
- 4a) Of the above claim(s) 51-55, 57, 59-61 and 63-72 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 49, 50, 56, 58 and 62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is responsive to communication filed on August 24, 2009. Claims 49-72 are pending in the application. Claims 51-55, 57, 59-61 and 63-72 have been withdrawn from consideration. Claims 49, 50, 56, 58 and 62 have been examined by the Examiner.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 24, 2009 has been entered.

Response to Arguments

3. Applicant's arguments filed August 24, 2009 have been fully considered but they are not persuasive.

4. Applicant argues, with respect to claims 49 and 62, that modification of Yuyuma in the manner suggested by the Office Action is improper. For example, if the optical system of Yuyuma is modified based on Berreman to achieve the optical apparatus having no lens element that moves along an optical axis recited in Claims 49 and 62, Applicant submits that such modification would be contrary to the teachings of Yuyuma and thus, unsatisfactory for its intended purpose. As the Office acknowledges, Yuyuma specifically teaches an optical system which includes a lens that is moved along the

optical axis in order to enlarge and reduce the image of the subject for providing a focal point adjusting function. Claims 49 and 62, for example, recite, "the optical system comprising no lens element that moves along an optical axis." Indeed, "... when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious." KSR Int'l Co.'v. Teleflex Inc. 82 U.S.P.Q.2d 1385, 1395 (2007) (emphasis added); MPEP § 2143.01 VI ("If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).").

5. The Examiner respectfully disagrees. There is no disclosure in Yuyama or Berreman that teaches away from the suggested combination. Yuyama is silent with respect to a variable optical element that does not move along the optical axis. Berreman addresses the optical system embodied in Yuyama in which optical elements are moved along an optical axis (Berreman, column 1, lines 10-18). Considering this prior art optical arrangement, Berreman proposes a novel variable optical system which does not include a lens element that moves along the optical axis (Berreman, column 2, lines 18-26, column 3, line 59 through column 4, line 3). In fact, Berreman teaches that the variable optical element can "serve as an optical lens" and be used in "cameras", column 2, lines 18-26. Therefore, in addition to the desirable elimination of a mechanical drive system to drive lenses along the optical axis (Berreman, column 1,

lines 10-18), the combination of Yuyama and Berreman only involves a simple substitution of one known element for another to obtain predictable results.

6. In KSR, the Supreme Court particularly emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art” and discussed circumstances in which a patent might be determined to be obvious.

Importantly, the Supreme Court reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” The Supreme Court stated that there are “[t]hree cases decided after Graham [that] illustrate this doctrine.” (1) “In

United States v. Adams, . . . [t]he Court recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” (2) “In *Anderson’s-Black Rock, Inc. v. Pavement Salvage Co.*, . . . [t]he two [pre-existing elements] in combination did no more than they would in separate, sequential operation.” (3) “[I]n *Sakraida v. AG Pro, Inc.*, the Court derived . . .

the conclusion that when a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious.” The principles underlining these cases are instructive when the question is whether a patent application claiming the combination of elements of prior art would have been obvious. See MPEP § 2141(I).

7. Furthermore, the modification of Yuyama based upon Berreman would not change the principle operation (i.e. camera operation) of Yuyama as it simply involves substituting one variable optical system for another.
8. Therefore, the rejection is maintained by the Examiner.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. Claims 49 and 62 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
11. Claims 49 and 62 recite "wherein said optical element having the variable focal length characteristic has a principle point whose location is independent of a polarized direction of the incident light". The Examiner has found no teaching or suggestion in the original disclosure of an optical element having a variable focal length characteristic that has a principle point whose location is independent of a polarized direction of the incident light.
12. While there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure. See

MPEP § 2163(I)(B). When filing an amendment an applicant should show support in the original disclosure for new or amended claims. See MPEP § 714.02 and § 2163.06.

13. The rejection under 35 U.S.C. 112, first paragraph, will be sustained unless the record as a whole, including amendments, arguments, and any evidence submitted by Applicant demonstrates that the written description requirement is satisfied. See MPEP § 2163.04(II).

Claim Rejections - 35 USC § 103

14. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

15. Claims 49, 50, 58 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuyama et al. (US 5,825,408) in view of Berreman (US 4,190,330).

16. The response to Applicant's arguments, as discussed above, is hereby incorporated into the rejection of claims 49, 50, 58 and 62 by reference.

Consider claim 49, Yuyama et al. teach:

An optical apparatus (figures 5 and 6) having a telephone function (Figures 5 and 6) depict a portable television receiver which has a camera section (106, column 9, lines 54-64). Within the device, image data can be modulated into an audio signal and sent over a telephone line (column 10, lines 25-28), and also received via a receiving unit for a telephone (column 10, lines 47-55). Note that in alternate embodiments shown in

figures 4 and 17, the telephone receiver can be connected to the portable television receiver, and data can be output directly over a telephone line.) comprising:

an optical system (column 9, lines 44-64) with an optical element ("lens") having a variable focal length characteristic, that uses no polarizing plate, and forms an image whose brightness is independent of a polarized direction of incident light (The lens is used to focus images to be taken by the camera section, and can be moved in order to zoom in and out, column 10, lines 33-37. Yuyama et al. teaches that the lens (i.e. the optical element) of the camera section is moved along the optical axis in order to enlarge and reduce the image of the subject (i.e. to zoom in and out by varying the focal length). Therefore, the lens has a variable focal length characteristic. As the optical element is a lens, it requires no polarizing plate, and forms an image whose brightness is independent of a polarized direction of incident light.);

an image pickup device for picking up an image formed by said optical system (CCD, column 4, lines 19-24. See also, column 9, lines 59-64 for the recording of images.);

a display (105) for displaying a picked up image (column 9, lines 61-64);

and a memory ("recording section") for storing the picked up image (column 9, lines 59-61).

However, Yuyama et al. does not explicitly teach that the optical system contains no lens element that moves along the optical axis.

Berberman similarly teaches of an optical system of a camera having a variable focal length (See column 1, lines 6-18 and column 2, lines 18-26.).

However, in addition to the teachings of Yuyama et al., Berreman teaches that the optical system contains no lens element that moves along the optical axis (See figure 2, column 2, lines 60-64, column 3, lines 43-47 and column 3, line 59 through column 4, line 3.). The variable focusing device of Berreman (figure 2) produces a variable focusing effect by varying an electrical field between electrodes (24) in order to change the refractive index of liquid crystal material present in the focusing device (column 3, lines 43-47, column 3, line 67 through column 4, line 3). The optical device (figure 2, column 2, lines 50-64) contain no polarizing plate and produces a variable focusing effect independent of the polarization of incident light (column 3, line 67 through column 4, line 3).

Berreman further teaches that said optical element having the variable focal length characteristic has a principal point whose location is independent of a polarized direction of the incident light (As the optical element (figure 2) "serves as an optical lens" (column 2, lines 18-23), produces "a variable focusing effect on light incident in direction z independent of the polarization of such light" (column 4, lines 1-3), and is a single optical element which does not move along the optical axis as discussed above, it has a principle point whose location is independent of a polarized direction of incident light.).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to replace the variable focus lens taught by Yuyama et al. with the variable focus element taught by Berreman for the benefit of eliminating a

mechanical drive unit necessary to change the focus of the optical device (Berreman, column 1, lines 10-15).

Consider claim 50, and as applied to claim 49 above, Yuyama et al. further teach a viewfinder (105) for determining an image pickup range (column 9, lines 61-64, column 5, lines 21-35).

Consider claim 58, and as applied to claim 49 above, Yuyama et al. further teach a microprocessor (CPU, 34, figure 3, column 6, lines 41-48).

Consider claim 62, Yuyama et al. teach:

An optical apparatus (figures 5 and 6) having a telephone function (Figures 5 and 6 depict a portable television receiver which has a camera section (106, column 9, lines 54-64). Within the device, image data can be modulated into an audio signal and sent over a telephone line (column 10, lines 25-28), and also received via a receiving unit for a telephone (column 10, lines 47-55). Note that in alternate embodiments shown in figures 4 and 17, the telephone receiver can be connected to the portable television receiver, and data can be output directly over a telephone line.) comprising:

an optical system (column 9, lines 44-64) having a focal point adjusting function which comprises an optical element ("lens") having a variable focal length characteristic, uses no polarizing plate and forms an image whose brightness is independent of a polarized direction of incident light (A lens (i.e. an optical element) is used to focus

images to be taken by the camera section, and can be moved in order to zoom in and out, column 10, lines 33-37. Yuyama et al. teaches that the lens (i.e. the optical element) of the camera section is moved along the optical axis in order to enlarge and reduce the image of the subject (i.e. to zoom in and out by varying the focal length). Therefore, the lens has a variable focal length characteristic. As the optical element is a lens, it requires no polarizing plate, and forms an image whose brightness is independent of a polarized direction of incident light.);

an image pickup device for picking up the image formed by said optical system (CCD, column 4, lines 19-24. See also, column 9, lines 59-64 for the recording of images.);

a display (105) for displaying a picked up image (column 9, lines 61-64);

a memory ("recording section") for storing the picked up image (column 9, lines 59-61); and

a microprocessor (CPU, 34, figure 3, column 6, lines 41-48).

However, Yuyama et al. does not explicitly teach that the optical system contains no lens element that moves along the optical axis.

Berberman similarly teaches of an optical system of a camera having a variable focal length (See column 1, lines 6-18 and column 2, lines 18-26.).

However, in addition to the teachings of Yuyama et al., Berberman teaches that the optical system contains no lens element that moves along the optical axis (See figure 2, column 2, lines 60-64, column 3, lines 43-47 and column 3, line 59 through column 4, line 3.). The variable focusing device of Berberman (figure 2) produces a

variable focusing effect by varying an electrical field between electrodes (24) in order to change the refractive index of liquid crystal material present in the focusing device (column 3, lines 43-47, column 3, line 67 through column 4, line 3). The optical device (figure 2, column 2, lines 50-64) contain no polarizing plate and produces a variable focusing effect independent of the polarization of incident light (column 3, line 67 through column 4, line 3).

Berreman further teaches that said optical element having the variable focal length characteristic has a principal point whose location is independent of a polarized direction of the incident light (As the optical element (figure 2) "serves as an optical lens" (column 2, lines 18-23), produces "a variable focusing effect on light incident in direction z independent of the polarization of such light" (column 4, lines 1-3), and is a single optical element which does not move along the optical axis as discussed above, it has a principle point whose location is independent of a polarized direction of incident light.).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to replace the variable focus lens taught by Yuyama et al. with the variable focus element taught by Berreman for the benefit of eliminating a mechanical drive unit necessary to change the focus of the optical device (Berreman, column 1, lines 10-15).

17. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yuyama et al. in view of Berreman, as applied to claim 49 above, and further in view of Hamblen (US 5,745,289).

18. The response to Applicant's arguments, as discussed above, is hereby incorporated into the rejection of claim 56 by reference.

Consider claim 56, and as applied to claim 49 above, the combination of Yuyama et al. and Berreman does not explicitly teach that the optical apparatus comprises a diffractive optical element.

Hamblen similarly teaches a lens (L1, figure 1) of an optical system of a camera (See column 1, lines 12-17 and lines 64-67, column 3, lines 18-43).

However, in addition the teachings of Yuyama et al., Hamblen teaches that a lens (L1, figure 1) of the optical system comprises a diffractive optical element ("DOE", column 1, lines 5-17, column 3, lines 18-20).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to include a diffractive optical element as taught by Hamblen in the optical system taught by the combination of Yuyama et al. and Berreman for the benefit of correcting for spherical and chromatic aberration as well as aberration due to thermal expansion and contraction (Hamblen, column 1, lines 12-17).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALBERT H. CUTLER whose telephone number is (571)270-1460. The examiner can normally be reached on Mon-Thu (9:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC

/Sinh Tran/
Supervisory Patent Examiner, Art Unit 2622